

Dual stack optical data storage medium and use of such mediumMD5  
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The invention relates to a dual-stack optical data storage medium for at least read out using a focused radiation beam with a wavelength  $\lambda$  between 400 nm and 410 nm and an Numerical Aperture (NA) between 0.84 and 0.86, entering through an entrance face of the medium during read out, comprising:

5            -a substrate with present on a side thereof:  
          -a first stack of layers named L0, comprising a first information layer,  
          -a second stack of layers named L1, comprising a second information layer,  
L1 being present at a position closest to the entrance face and L0 more remote from the entrance face than L1,  
10            -a radiation beam transparent spacer layer between L0 and L1,  
          -a radiation beam transparent cover layer between the entrance face and L1  
          -a transmission stack named TS0 with a thickness  $d_{TS0}$  and an effective refractive index  $n_{TS0}$  containing all layers between L0 and the entrance face,  
          -a transmission stack named TS1 with a thickness  $d_{TS1}$  and an effective  
15            refractive index  $n_{TS1}$  containing all layers between L1 and the entrance face.

The invention also relates to the use of such medium.

An embodiment of such an optical recording medium is known from a paper  
20 "New Replication Process Using Function-assigned Resins for Dual-layered Disc with 0.1 mm thick Cover layer", by K. Hayashi, K. Hisada and E. Ohno, Technical Digest ISOM 2001, Taipei, Taiwan. A minimum spacer layer thickness of 30  $\mu\text{m}$  was disclosed.

There is a constant drive for obtaining optical storage media suitable for recording and reproducing, which have a storage capacity of 8 Gigabyte (GB) or larger. This  
25 requirement is met by some Digital Video Disk or sometimes also Digital Versatile Disk formats (DVD). DVD formats can be divided into DVD-ROM that is exclusively for reproduction, DVD-RAM, DVD-RW and DVD+RW, which are also usable for rewritable data storage, and DVD-R, which is recordable once. Presently the DVD formats comprise disks with capacities of 4.7 GB, 8.5 GB, 9.4 GB and 17 GB.